Oroville FERC Relicensing (Project No. 2100)

SP-F5/7 Task 1 Final Report

Evaluation of Potential Effects of Fisheries Management Activities on ESA-Listed Fish Species

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Study Objectives

- Identify and characterize the potential effects of fisheries management activities occurring within the study area on ESA- and SSC-listed fish species.

Need for Study

- Operations of the Oroville Facilities affect the fisheries management activities occurring within the study area and have the potential to influence ESA- and SSC-listed fish species by providing opportunities for interaction between fish species which otherwise may not have occurred.

Methodology

- Fish Stocking Management Activities
  - Identify and quantify current fish stocking activities
  - Identify opportunities for interaction between stocked fish species and ESA- and SSC-listed fish species
  - Identify types of potential interactions between stocked fish species and ESA or SSC listed fish species.
  - Review fisheries literature to evaluate potential interactions between stocked fish and ESA or SSC listed fish species

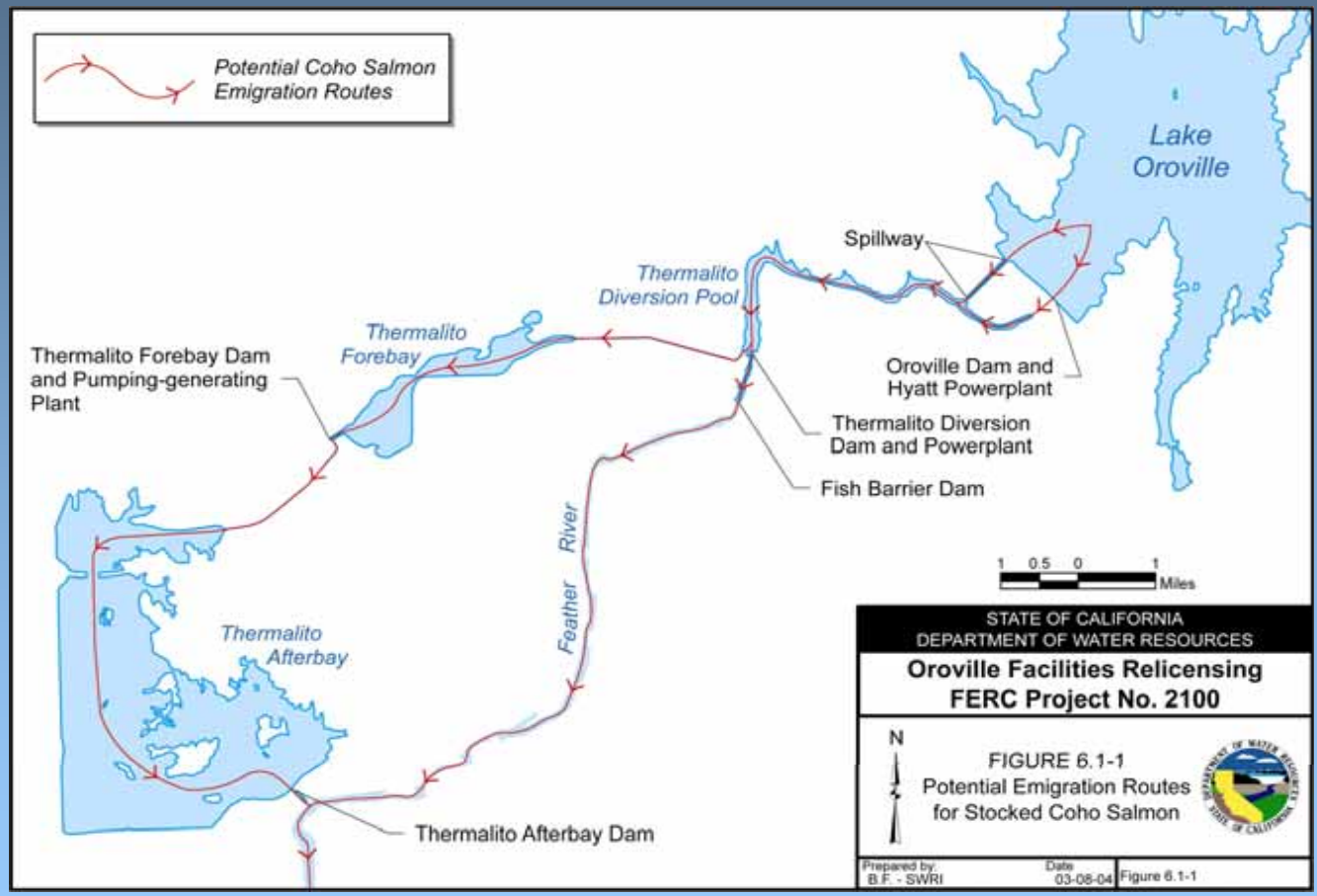
Methodology

- Non-Stocking Management Activities
  - Identify non-stocking management activities in the project area
  - Review literature to evaluate those activities that may affect ESA- and SSC-listed species

Results

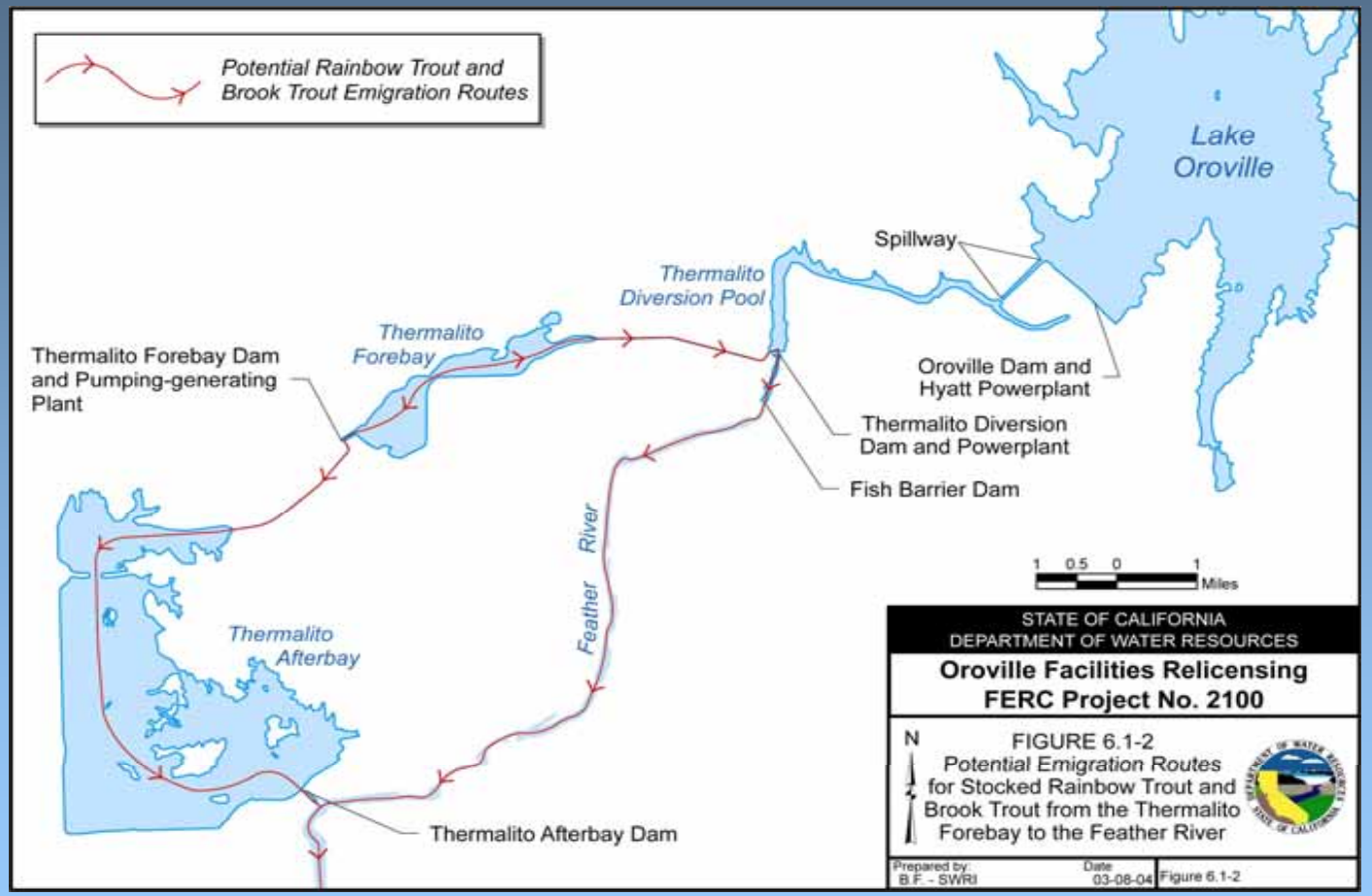
- Fish Stocking
  - Lake Oroville
    - Coho Salmon
  - Thermalito Forebay
    - Rainbow Trout
    - Brook Trout

Results



Potential Coho Salmon emigration routes from Lake Oroville

Results



Rainbow trout or Brook Trout Escape From Thermalito Forebay

Results

- Species of Concern
  - Chinook Salmon
  - Steelhead
  - Green Sturgeon
  - Hardhead
  - Sacramento Splittail
  - River Lamprey

Results

- Potential Interactions
  - Disease Transmission
  - Competition for Resources
  - Predation
  - Genetic Introgression

Results

- Non-Stocking Management Activities
  - Habitat enhancements
  - Genetic enhancements to species in warmwater fishery

Conclusions

- Stocking Activities
  - Disease Transmission
    - Current hatchery disease prevention and mitigation protocols make disease transmission to native stocks unlikely
  - Genetic Introgression
    - Currently – only potential is between rainbow trout and steelhead
    - Not likely due to low numbers of fish escaping reservoirs

Conclusions

- Stocking Activities
  - Predation and Competition
    - Unlikely due to low numbers of stocked fish escaping reservoirs

Conclusions

- Non-Stocking Management Activities
  - Habitat Enhancements
    - Confined to Lake Oroville
    - Enhancement structures anchored to lake bottom
  - Genetic Enhancements
    - Targeted to warmwater fishery
    - Spatially segregated from lower Feather River
    - Escapees likely to proceed downstream in High Flow Channel